



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/834,836	04/13/2001	Subhasis Ojha	020431.0793	4291
7590	04/06/2005		EXAMINER	
Christopher W. Kennerly Baker Botts L.L.P. Suite 600 2001 Ross Avenue Dallas, TX 75201			STERRETT, JONATHAN G	
			ART UNIT	PAPER NUMBER
			3623	
DATE MAILED: 04/06/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/834,836	OJHA ET AL.
	Examiner	Art Unit
	Jonathan G. Sterrett	3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 13 April 2001.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-23 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-23 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12-9-2004</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Summary*

1. Claims 1-23 are pending in the application. The instant application deals with a system for synchronizing planning information. More specifically, the invention deals with synchronizing advanced planning system (APS) information in a high availability context among secondary systems to ensure continuity and reliability in the operation of the APS system. This requires replication of information to the secondary systems that provide backup functionality in the event of an outage in the primary system. APS systems are capable of providing functionality beyond what was available previously in that 'available to promise', or the ability to promise a specific date for a particular order, can be provided.

### *Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over MAPICS' Software Product (Mapics) in view of Datamirror's Software Product (Datamirror).

**MAPICS software product is described in the following documents:**

Web.archive.org, mapics.com, "Resource Planning", November 5, 1999, pp.1-3., hereafter referred to as **Reference A**.

Web.archive.org, mapics.com, "The AS/400", November 8, 1999, p.1., hereafter referred to as **Reference B**.

Web.archive.org, mapics.com, "Operations Management", November 5, 1999, pp.1-3., hereafter referred to as **Reference C**.

Web.archive.org, mapics.com, "Products Overview", November 5, 1999, pp.1-4., hereafter referred to as **Reference D**.

Web.archive.org, mapics.com, "Demand Management", November 4, 1999, pp.1-3., hereafter referred to as **Reference E**.

Web.archive.org, mapics.com, "Advanced Planning and Scheduling", October 2, 1999, pp.1-2., hereafter referred to as **Reference F**.

**Datamirror software product is described in the following documents:**

Web.archive.org, datamirror.com, "High Availability Suite", February 10, 1999, pp.1-3., hereafter referred to as **Reference A**.

Regarding claim 1 MAPICS teaches:

**processing requests from one or more external systems using an advanced planning and scheduling (APS) engine included in a first primary system,**

Reference A page 2 paragraph 6 line 1-4, warehouse places requests for items to be manufactured in another facility.

**the processing of requests including modifying planning information stored in memory of the first primary system according to the requests;**

Reference A page 2 paragraph 6 line 2-5, planning information is modified related to production

Reference A page 1 paragraph 3 line 2-3, taking action to avoid bottlenecks, in the master schedule, for example, would comprise processing requests to modify planning information.

Reference B page 1 paragraph 1 line 2, MAPICS runs on the AS/400, so the above functionality would be performed on information stored in memory of the AS/400.

**storing change information reflecting the modifications to the planning information in a database**

Reference A page 2 paragraph 7 line 10, modifications to planning information, in this case demand and item availability are updated in the database.

Reference C page 1 paragraph 1 line 1-2, MAPIC's database is a framework where records are maintained to support planning and operational systems.

MAPICS does not teach the above claim limitations included in a first primary high availability system and MAPICS does not teach:

**extracting the change information from the database at an extraction time;**

updating the planning information using the extracted change information;

storing the updated planning information in memory of a second primary HA system;

identifying requests that were processed by the first primary HA system after the extraction time;

updating the planning information stored in memory of the second primary HA system to account for the requests processed after the extraction time; and

replacing the first primary HA system with the second primary HA system such that the first primary HA system ceases processing requests from the external systems and the second primary HA system begins processing requests from the external systems, the second primary HA system processing the requests using an APS engine included in the second primary HA system and the updated planning information stored in memory of the second primary HA system.

Datamirror teaches:

extracting the change information from the database at an extraction time; updating the planning information using the extracted change information; storing the updated planning information in memory of a second primary HA system;

Reference A page 2 paragraph 1 line 1-3, Datamirror captures database transactions from production systems, including transactions of planning information and replicates them to one or more backup AS/400's.

Reference A page 2 paragraph 1 line 3-6, Datamirror can extract and store, i.e. replicate, planning information from the AS/400 taught by MAPICS at any time, including time specified by a user.

**identifying requests that were processed by the first primary HA system after the extraction time;**

Reference A page 2 paragraph 1 line 1, Datamirror has a change detection engine to identify requests that have not been replicated, i.e. remain in the primary HA system after a previous replication.

**updating the planning information stored in memory of the second primary HA system to account for the requests processed after the extraction time; and**

Reference A page 2 paragraph 1 line 2-3, data from production systems, including planning information is replicated to one or more backup AS/400 systems.

**replacing the first primary HA system with the second primary HA system such that the first primary HA system ceases processing requests from the external systems and the second primary HA system begins processing requests from the external systems,**

Reference A page 2 paragraph 3 line 1-2, SwitchOver System performs operational switching from primary production machines to backup AS/400 systems, i.e. second primary system.

**the second primary HA system processing the requests using an APS engine included in the second primary HA system and the updated planning information stored in memory of the second primary HA system.**

Reference A page 2 paragraph 3 line 7-8, secondary systems can assume the role of primary systems after Datamirror switches operational role from primary to secondary.

Datamirror teaches that its systems provide high availability and provide security that data will be protected in cases of system outages (page 1 paragraph 3 line 1-3 and paragraph 4 line 1-2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of MAPICS, regarding using an AS/400 to perform APS functions, with the teachings of Datamirror's to replicate data and perform switching from a primary to a second HA system, in order to prevent data loss and ensure continuity in the operation of the APS servers.

Regarding Claim 2, MAPICS teaches:

**the planning information comprises available-to-promise (ATP) supply information for one or more products,**

Reference C page 3 "Resource Planning" section, "Master Production Schedule Planning (MPSP)" section, MAPICS provides available-to-promise information in its production planning capability.

**and updating the planning information comprises: determining, the difference between forecasted demand and actual demand for the products;**

Reference E page 3 paragraph 1 line 3-4, MAPICS creates a forecast based on recent sales data and monitors its accuracy, to continually adjust the forecast to improve its accuracy.

**and in response, updating the ATP supply information.**

Reference A page 1 paragraph 2 line 4-6, master scheduling, in which ATP information is maintained, is updated from item level forecasts

MAPICS does not teach the above:

**based on the extracted change information,**

Datamirror teaches using extracted change information as the basis for replication to secondary, backup systems to provide high availability (Reference A page 2 paragraph 1 line 1-3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of MAPICS in using APS to provide ATP information based on forecasts, with the teachings of Datamirror to extract data

Art Unit: 3623

from a primary system for replication, in order to provide high availability service from the system and to backup operational data.

Regarding Claim 3, MAPICS teaches using an APS system to handle production planning information, as discussed above.

MAPICS does not teach:

**further comprising communicating information from the second primary HA system to a secondary HA system after replacing the first primary HA system with the second primary HA system,**  
**the secondary HA system operable to store the information in memory of the secondary HA system and farther operable to begin processing requests using an APS engine included in the secondary HA system and the planning information stored in memory of the secondary HA system.**

Datamirror teaches:

**further comprising communicating information from the second primary HA system to a secondary HA system after replacing the first primary HA system with the second primary HA system,**

Reference A page 1 paragraph 4 line 2-3, Datamirror moves data and objects from primary systems to one or more backup systems.

Reference A page 2 paragraph 2 line 1-2, Objectmirror replicates critical objects from production systems to one or more backup systems.

**the secondary HA system operable to store the information in memory of the secondary HA system and farther operable to begin processing requests using an APS engine included in the secondary HA system and the planning information stored in memory of the secondary HA system.**

Reference A page 2 paragraph 2 line 2-3, active mirroring of object types including programs and folders, including those taught by MAPICS that provide APS functionality and processing requests that involve planning information.

Since Datamirror can replicate and backup to one or more systems, including a second primary system and then a secondary HA systems, all the functionality taught by MAPICS could be replicated, migrated and backed up in one or more second and secondary systems for the purpose of providing data and program functionality backup.

It would have been obvious to one of ordinary skill in the art to modify the teachings of MAPICS providing APS functionality using various kinds of planning information with the teachings of Datamirror regarding replicating and backing up programs and data on one or more backup systems, in order to back up critical data and program functionality to ensure continuity in case a system fails.

Regarding Claim 4, MAPICS teaches:

**Requests requiring modification of the planning information.**

Reference A page 1 paragraph 2 line 4-6, inputs to the master schedule, including orders, comprise requests that require modification of the planning information.

**Requests not requiring modification of the planning information.**

Reference C page 1 paragraph 5 line 8-9, order status reporting by Production Control and Costing would comprise requests not requiring modification of the planning information.

MAPICS teaches the use of the IBM AS/400 as the platform for its software product (Reference B page 1 paragraph 1 line 1).

MAPICS does not teach:

**directing requests requiring modification of the planning information to the second primary HA system for processing; and**  
**directing requests not requiring modification of the planning information to the secondary HA system for processing.**

Official Notice is taken that it is old and well known in the art of the AS/400, that the AS/400 provides for request and message queues, whereby messages and requests can be queued to various systems.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of MAPICS regarding handling requests that require modification and no modification to planning information, with a

Art Unit: 3623

queue manager to direct requests to different systems, so that the system can operate more efficiently by dedicating resources to handle different types of requests.

Regarding Claim 5, MAPICS teaches  
**the requests requiring modification of the planning information comprise product orders; and**

Reference A page 1 paragraph 2 line 4-6, inputs to the master schedule, including orders, comprise requests that require modification of the planning information.

**the requests not requiring modification of the planning information comprise product inquiries.**

Reference C page 1 paragraph 5 line 8-9, order status reporting by Production Control and Costing would comprise requests not requiring modification of the planning information.

Regarding Claim 6, MAPICS teaches:  
**generating a response to an external system in response to modifying the planning information according a request;**

Reference E page 1 paragraph 2 line 3, orders may be entered into system

Reference D page 3 "Resource Planning" – available to promise functionality is provided by system on all orders,

**communicating the response to the external system;**

Entering orders causes the planning information to be updated and an available to promise date would be communicated back to the external system.

Available to promise functionality implies that a response would be communicated back to the external system consisting of the relevant order information and a date (Reference F page 1 paragraph 4, line 1-3)

MAPICS does not teach:

**generating a replication message reflecting modifications made to the planning information by either the first primary HA system or the second primary HA system, and**

**communicating the replication message to a secondary HA system that is also operable to process requests from the external system, the secondary HA system further operable to modify planning information stored in memory of the secondary HA system according to the replication message.**

Datamirror teaches:

**generating a replication message reflecting modifications made to the planning information by either the first primary HA system or the second primary HA system, and**

Reference A page 1 paragraph 4 line 2-3, planning information, including any and all data and objects from primary systems can be moved and replicated to one or more backup machines.

Reference A page 2 paragraph 1 line 6, users simply select which data objects to mirror, including those relating to or incorporating planning information, and begin replication.

**communicating the replication message to a secondary HA system  
that is also operable to process requests from the external system,**

Reference A page 2 paragraph 1 line 6, users simply select which data objects to mirror, including those relating to or incorporating planning information, and begin replication.

Reference A page 2 paragraph 2 line 1-2, ObjectMirror replicates objects from production systems to one or more backup AS/400's.

**the secondary HA system further operable to modify planning  
information stored in memory of the secondary HA system according to the  
replication message.**

Reference A page 2 paragraph 2 line 1-2, ObjectMirror replicates objects from production systems to one or more backup AS/400's. MAPICS objects replicated to another AS/400 would be further operable to modify planning information in memory, since the AS/400 is the preferred platform of MAPICS.

Reference A page 2 paragraph 3 line 7-8, SwitchOver System allows a backup system to assume operation of a primary system in the event of planned or unplanned outage.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of MAPICS, regarding their APS system running on an AS/400, to replicate the data and objects from a primary system to one or more backup systems, as taught by Datamirror, because it would secure data and provide by backup in the case of unplanned outages.

Regarding Claim 7, MAPICS teaches:

**the external systems comprise external ordering systems associated with customers;**

Reference E page 1 paragraph 2 line 3-4, orders may be entered using internal numbers or customer numbers.

**the requests comprise product orders from customers;**

Reference A page 1 paragraph 2 line 5-6, customer orders are requests that feed into master schedule.

**the planning information comprises available-to-promise (ATP) supply information associated with one or more products; and**

Reference F page 1 paragraph 4 line 1-3, ATP supply information associated with orders includes resources required to fulfill the orders.

**the APS engine comprises a demand fulfillment engine operable to promise ATP supply to a customer in response to the product orders.**

Reference A page 1 paragraph 1 line 3-4, MPSP provides production plans to Customer Order Management for available-to-promise calculations.

Claims 8-23 recite limitations already addressed by the rejection of Claims 1-7 above, therefore the same rejection applies.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,115,690 by Wong discloses an integrated business-to-business Web commerce and business automation system

US 6,151,582 by Huang discloses a decision support system for the management of an agile supply chain.

US 6,609,101 by Landvater discloses a supply chain management system for use in retail store chains.

US 5,231,567 by Matoba discloses manufacturing planning system.

US 6,119,102 by Rush discloses a MRP system with viewable master production schedule.

US 6,356,797 by Hsieh discloses a method for automatic scheduling of production plan.

US 5,809,477 by Pollack discloses a method for allocation and scheduling of beds in a pediatric intensive care unit.

US 5,993,041 by Toba discloses a production controller for facility group work start.

Art Unit: 3623

US 6,826,538 by Kalyan discloses a method for planning component purchases.

US 6,272,389 by Dietrich discloses a method for capacity allocation in an assembly environment.

BusinessWire, May 25, 1999, "DataMirror High Availability Suite wins in IBM Powered by AS/400E Program", pp.1-2.

Web.archive.org's DataMirror.com webpage of December 6, 1998, "DataMirror Products", pp.1-2.

Web.archive.org's MAPICS.com webpage of February 29, 2000, "technology AS/400e", pp.1-2.

Web.archive.org's MAPICS.com webpage of November 9, 1999, "Future Directions", p.1.

Bruce Wassell's www-919.ibm.com webpage copyrighted March, 1999, "MQSeries for AS/400 V5.1", pp.1-13.

Web.archive.org's MAPICS.com webpage of April 16, 2000, "MAPICS XA Product Family", pp.1-3.

Web.archive.org MAPICS.com webpage of February 29, 2000, "news Announcements: Energized for e-business eWorkplace and Your Future".

Web.archive.org MAPICS.com webpage of November 8, 1999, "The AS/400 – The Preferred MAPICS Platform".

Web.archive.org MAPICS.com webpage of January 23, 2000, "Building Productivity throughout the Enterprise".

Art Unit: 3623

Web.archive.org MAPICS.com webpage of November 5, 1999, "Products Financial".

Web.archive.org MAPICS.com webpage of November 4, 1999, "Products Engineering".

Web.archive.org MAPICS.com webpage of November 5, 1999, "Products Operations".

Web.archive.org MAPICS.com webpage of February 19, 1999, "Customers Success – York International Denmark".

Web.archive.org MAPICS.com webpage of October 5, 1999, "Customers Success – Weber Aircraft".

Web.archive.org MAPICS.com webpage of February 19, 1999, "Customers Success – Volvo Construction Equipment Sweden".

Web.archive.org MAPICS.com webpage of February 22, 1999, "Customers Success – Timesavers, Inc.".

Web.archive.org MAPICS.com webpage of March 5, 2000, "Customers Success – Tech International Ohio".

Web.archive.org MAPICS.com webpage of May 6, 1999, "Customers Success – Sanyo Energy Germany".

Web.archive.org MAPICS.com webpage of October 4, 1999, "Customers Success – Dialight Corporation".

Web.archive.org MAPICS.com webpage of August 31, 1999, "News EuroMAPICS".

Art Unit: 3623

SAP INFO, January 17, 2001, "Logistics Masterplan", pp. 1-2, discusses the Supply Chain Council's SCOR (Supply Chain Operations Reference) Model.

Canadian News, June 23, 1999, "DataMirror the first to deliver new cluster management solution for IBM AS/400", pp.1-3.

Web.archive.org XML.com webpage of April 24, 1999, "CSS, XSL and other style sheet and presentation issues".

IBM, inc.'s presentation of October 3, 2000, "IBM eServer iSeries 400...for Extreme Business" 38 slides.

Paula Richard's (IBM) presentation of April 13, 2000, "AS/400 and JAVA: Update", 70 slides,

"<http://www.common.be/pdffiles/13042000AS400JavaUpdate.PDF>".

Johnston, Sam, September 1997, "Communicating with Sam – Disaster Recovery and High Availability". Toronto Users Group for Midrange Systems, Volume 13, Number 1, pp.1-3.

Harter, Charlie, September 1997, "Why you should web-enable your AS/400". Toronto Users Group for Midrange Systems, Volume 13, Number 1, pp.1-3.

Web.archive.org cmssoftware.com webpage of September 1, 1999, "Order Processing/Customer Service".

Lovejoy, William S., "How many decisions should you automate?", December 6, 1999, Financial Times, pp.1-7.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 703-305-0550. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS 3-18-2005



TARIQ R. HAFIZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600